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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,990	04/12/2001	Alex Ka Tim Poon	07303.0035	9499

22852 7590 12/12/2002

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EXAMINER

NGUYEN, HUNG

ART UNIT PAPER NUMBER

2851

DATE MAILED: 12/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/832,990

Applicant(s)

POON, ALEX KA TIM

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) 1-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 57 and 58 is/are rejected.
- 7) ☐ Claim(s) 59-72 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION*****Election/Restrictions***

1. Applicant's election with traverse of group II (claims 57-72) in Paper No. 4 is acknowledged. The traversal is on the ground(s) that "the examiner has failed to demonstrate that the alleged combination and subcombination are distinct". This is not found persuasive because in the Restriction Requirement sent September 4, 2002, the Examiner followed restriction practice as set forth on MPEP § 805(c) and the claims are related as combination and subcombination. As clearly stated, each group is classified in separate subclasses demonstrated that the groups have separate status in the art and are, therefore, independent. The applicant further argued that "each of independent claims 1 and 35 belonging to group I recited all of the particulars of independent claim 57 belonging to group II. This is quite not true. The Examiner respectfully invites the Applicant to re-visit claim 1 for example, while claim 1 recites "an exposure apparatus for exposing a pattern onto a semiconductor wafer, comprising...an illumination system, ....a lens assembly...a positioning device comprising: a housing; a piezoelectric actuator having a first and second end the first end fixedly mounted to the housing and the second end movable in a first direction in response to a change in voltage applied to the piezoelectric actuator, the first end fixedly mounted to the housing....a structure for moving... a first joint movable in the first direction in responses to the second end of the piezoelectric actuator moving in the first direction. Claim 57 is silent with respect to these technical features. As such the combination does not require the subcombination as claimed for patentability and as stated in this case, the subcombination which is explicitly related to a structure for moving a

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wafer table has separate utility and can be used by itself or in other combination such as moving a reticle table in a scanning exposure apparatus.

The requirement is still deemed proper and is therefore made **FINAL**.

2. This application contains claims 1-56 drawn to an invention nonelected with traverse in Paper No. 4. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Abstract***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the following term should be omitted: "comprises" line 1, 6. Correction is required.

### ***Drawings***

4. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

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***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 57-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Andeen et al (U.S.Pat. 6,355,994).

As to claims 57-58, Andeen et al (fig.1) discloses a positioning device for moving a wafer (244) and comprising all basic structures of the instant invention as claimed such as: a first joint movable in first direction (see col.2, line 55), and a second joint (see col.2, line 57) for moving the wafer in second direction (see fig.2A) and a diagonal member (23) for connecting the first and second joints at an angle with respect to the first direction and a first flexure joint and a second flexure joint for connecting the diagonal member to the first and second joints (see co.2, lines 62-65).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gran et al (U.S.Pat. 6,029,959).

With respect to claims 57-58, Gran et al (figs.1-3) discloses a structure having six independently controllable degrees of freedom and comprising substantially all of the basic features of the instant claims such as : a first joint movable in the first direction and a second joint movable in a second direction to move a table (10) in the second direction (see fig.1) a diagonal member (14) connected to the first and second joints at an angle and a flexure (20) connecting the diagonal member to the first and second joints for transmitting forces to the first and second joints in the first and second directions. Gran et al does not expressly disclose the structure being used for moving a wafer table. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the structure as taught by Grant et al in an exposure apparatus for moving the wafer. The purpose of doing so would have been to be able to control the position of wafer in at least six degrees of freedom.

***Allowable Subject Matter***

9. Claims 59-72 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record either alone or in combination, neither discloses nor makes obvious a structure for moving a wafer comprising a second diagonal member, a third flexure and fourth flexure and

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specific connection among these elements, along with a first joint, a second joint, a diagonal member and a flexure, satisfying conditions as recited in the instant claims.

***Prior Art Made of Record***

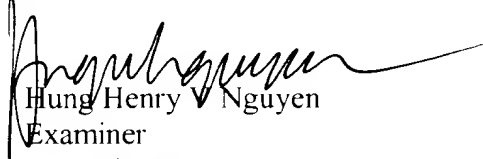
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bottinelli et al (U.S.Pat. 6,453,566) and Horikawa et al (U.S.Pat. 5,991,005) discloses stage device for moving the wafer and have been cited for technical background.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7723 for regular communications and 703-305-7723 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

  
Hung Henry V Nguyen  
Examiner  
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hvn  
December 11, 2002